

CLAIMS

1. A method of forming a nozzle plate component for a droplet deposition apparatus, said method comprising the steps:
forming a body of a first material said body having a periphery,
forming a plate of second material around said body such that the plate extends around at least a portion of said periphery of said body; and
forming a nozzle extending through said body.
2. A method according to Claim 1, wherein said plate is electroformed.
3. A method according to Claim 1 or Claim 2, wherein said first material is formed as a layer on a substrate said layer being processed to form a plurality of bodies.
4. A method according to Claim 3, wherein said plurality of bodies are arranged in an array corresponding with the desired array of nozzles in the completed nozzle plate.
5. A method according to Claim 3 or Claim 4, wherein said processing step comprises the steps of masking said layer, exposing said layer to radiation and removing portions of said layer.
6. A method according to any one of the preceding claims, wherein said nozzle is formed by ablating through said body.

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7. A method according to any one of the preceding claims, wherein said first material is a plastics material.
8. A method according to any one of the preceding claims, wherein said second material is a metal.
9. A method according to any one of the preceding claims, wherein said first material is a photoresist and preferably a negative photoresist.
10. A method according to one any of the preceding claims, wherein the said plate is attached to a droplet deposition apparatus before said nozzle is formed.
11. A method of forming a nozzle plate for droplet deposition apparatus, the nozzle plate defining a nozzle plate plane and comprising a plate having at least one nozzle plate layer and a plurality of nozzles, each nozzle extending through polymeric material located within an aperture within the nozzle plate, the method being characterised by the steps of defining a plurality of distinct bodies of polymeric material distributed over the nozzle plate plane and forming at least one metal nozzle plate layer by electroforming around said bodies of polymeric material.
12. A method according to Claim 11, wherein the nozzle plate comprises a first nozzle plate layer containing said apertures and the polymeric material located within said apertures through which the nozzles extend, and a second nozzle plate layer comprising a guard layer.
13. A method according to Claim 12, wherein said guard layer comprises, for each nozzle, a guard aperture which is of a dimension in the nozzle plane larger than that of the nozzle and smaller than that of the polymeric material through which the nozzle extends.

14. A method according to Claim 12 or Claim 13, wherein said second nozzle plate layer is formed by the steps of defining a plurality of distinct bodies of guard layer polymeric material distributed over the first nozzle plate layer; forming said guard layer by electroforming around said bodies of polymeric material and removing said guard layer polymeric material.
15. A method according to Claim 14, wherein said guard layer polymeric material is removed prior to formation of nozzles.
16. A method according to Claim 14, wherein nozzles are formed by ablation prior to removal of said guard layer polymeric material.
17. A method according to Claim 11, wherein the nozzle plate comprises a first nozzle plate layer containing said apertures and the polymeric material located within said apertures through which the nozzles extend, and a second nozzle plate layer comprising a connecting tracks layer.
18. A method of forming a nozzle plate component for a droplet deposition apparatus, said method comprising the steps of:
- forming a layer of first photoresist material on a substrate;
 - selectively exposing and removing photoresist material to define on the substrate an array of distinct bodies of said first material;
 - forming a first plate of metal around said bodies, so as to form a metal nozzle plate having apertures, each aperture containing a body of said first material; and
 - forming a nozzle extending through each body.

19. A method according to Claim 18, further comprising the step of depositing a metallic layer on the substrate prior to forming of the layer of first photoresist material, said first plate of metal being electroformed with said metallic layer serving as a seed layer.

20. A method according to Claim 18 or Claim 19, further comprising the steps of:
forming a layer of second photoresist material on the first plate of metal;
selectively exposing and removing photoresist material to define an array of distinct bodies of said second material aligned respectively with the bodies of said first photoresist material;
forming a second plate of metal around said bodies of second material; and
removing said second material to form apertures in the guard plate respectively aligned with the nozzles.